defects are common and lobectomy or pneumonectomy are often required for definitive treatment.

The mortality rate for Type I injuries in most reports is low (ranging from 0 to 5 percent), while for Type II injuries it is about 5 percent to 10 percent. Type III gunshot wounds have an associated mortality rate of 15 percent to 20 percent. When one examines the causes of death, the only common denominator is the range from which the missile was fired. Among all types of shotgun injuries, 85 percent to 90 percent of the deaths will be due to Type III injuries, with hemorrhage being the single most common cause of death. In the study by Sherman and Parrish,[3] the average period of survival of those patients dying was 2.3 hours, which emphasizes the importance of prompt, vigorous resuscitation and immediate definitive operation.

In summary, one can most successfully manage shotgun injuries by employing the following general guidelines.

- Carry out prompt and vigorous volume resuscitation.
- Inspect the wounds because, unlike the deceiving high-velocity rifle wound, inspection of the shotgun wound is most informative and is the key to treatment and prognosis.
- Treat all buckshot wounds as if they were multiple low-velocity bullet wounds.
- Use angiography evaluation liberally whenever there is any possibility of vascular injury.
- Explore aggressively all Type II and Type III wounds.
- Debride all devitalized tissue and reoperate, as necessary, to reevaluate any questionably viable tissue.

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Management of Facial Paralysis Due to Temporal Bone Fracture

IT IS VERY IMPORTANT to determine if facial paralysis has been delayed or is immediate. Most delayed paralyses get better by themselves. Most immediate ones do not get better. If immediate, and the nerve is out electrically—not excitable—then explore routinely. When to explore it? On the 21st day. Usually we have to graft the nerve because we have no way in the fallopian canal to mobilize the nerve and get the ends together after we have cut out the bad part. If the nerve has been damaged enough to cause the paralysis, you usually have to graft it. Why the 21st day? The time when the nerve cell body is maximally able to push axoplasm is at three weeks. After that time it descends, until at about one year it reaches almost the asymptote, and ever after that the nerve cell body is less and less able, until finally the nerve cell body degenerates in the brain stem. At one year, almost half the nerve cell bodies in the facial nucleus are gone. They are simply wiped out. . . . If the paralysis is immediate and the nerve retains its excitability—wait. But keep testing. And finally, if the paralysis is immediate or delayed and the nerve loses its excitability—explore.

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